WHAT IS CLAIMED IS:

1. A flash circuit for use in a camera, the flash charging circuit comprising:

a flash light discharge circuit having a light emitting element electrically connected to a flash capacitor;

a flash triggering circuit connected to the flash light discharge circuit with the flash triggering circuit having a trigger signal generating circuit generating a signal that enables energy from the flash capacitor to be converted into light by the light emitting element;

a voltage conversion circuit connected between a battery and the flash capacitor to convert energy from a source voltage into a higher voltage to charge the flash capacitor;

a timer circuit to cause the voltage conversion circuit to operate when the voltage at a timing capacitor is within a range of voltages, said timer circuit incorporating said timing capacitor in a time constant circuit that discharges energy stored in the timing capacitor at a predetermined rate; and

a reset circuit that resets the timing capacitor voltage to a voltage that is within the range, the reset circuit being actuated by said flash triggering circuit;

wherein the range of voltages is higher than the battery voltage and wherein the reset circuit first applies battery voltage to the timing capacitor and then applies voltage generated by the voltage conversion circuit to the timing capacitor to charge the timing capacitor to a voltage that is higher than the battery voltage.

2. The flash circuit of claim 1 where the reset circuit comprises a pair of complementary transistors, connected so as to latch each other in an "on" state, and arranged so that when latched in an "on" state, the transistors permit the voltage conversion circuit to charge the timing capacitor.

3. The flash circuit of claim 2, wherein the flash charging circuit comprises an oscillating transistor, and a charging terminal of a timing capacitor, and wherein the reset circuit is connected between a collector of the oscillation transistor and the charging terminal of the timing capacitor.

4. The flash circuit of claim 2, wherein the voltage conversion circuit generates a pulse train to charge the timing capacitor, and wherein when the timing capacitor is fully charged, the complementary transistors are electrically connected between the voltage conversion circuit and the timing capacitor so that the complementary transistors are transitioned to an "off" state as a voltage drop across the complementary transistors approaches zero when the timing capacitor reaches a fully charged condition.

5. The flash circuit of claim 4 wherein the complementary transistors are latched in an "on" state by a holding circuit comprising a resistor and a capacitor, said holding circuit being electrically connected to the base of one of said complementary transistors so that the holding circuit is charged when the sync switch is momentarily closed, said holding circuit keeping said complementary transistors latched to charge timing capacitor for a period of time determined by said holding circuit.

6. The flash circuit of claim 5 wherein said holding circuit is connected to the base of one of the complementary transistors and one of the complementary transistors is triggered by closure of said sync switch and the other transistor is triggered by closure of a switch operated by the customer.

7. The flash circuit of claim 6, wherein the period of time that said holding circuit operates the flash charging circuit is substantially shorter than the period of time that the customer operated switch will generate a reset signal.

8. The flash circuit of claim 1, wherein the amount of time required to charge the flash capacitor is a function of ambient temperature and wherein the discharge rate of the timing capacitor is prolonged at low ambient temperatures so that when battery efficiency is reduced because of low ambient temperature the amount of time of charging is extended.

9. The circuit of claim 8 wherein a temperature dependent resistor is associated with said timing capacitor to extend the timing period.

10. A flash charging circuit for use in a camera, the flash charging circuit comprising:

a flash light discharge circuit comprising a light emitting element electrically connected to a flash capacitor;

a flash triggering circuit connected to the flash light discharge circuit with the flash triggering circuit having a trigger signal generating circuit generating a signal that enables energy from the flash capacitor to be converted into light by the light emitting element;

a voltage conversion circuit connected between a battery and the flash capacitor to convert energy from a battery voltage into a higher voltage to charge the flash capacitor;

a timer circuit to cause the voltage conversion circuit to operate when the voltage at a timing capacitor is within a range of voltages, said timer circuit incorporating said timing capacitor in a time constant circuit that discharges energy stored in the timing capacitor at a predetermined rate; and

a reset circuit having a thyristor connected to the timing capacitor, a gate of said thyristor being triggered upon operation of a shutter of the camera, with the thyristor being connected to the battery and conducting energy from the battery to the timing capacitor when the thyristor is triggered to charge the timing capacitor to a voltage no greater than the battery voltage but within the range of voltages;

wherein said voltage conversion circuit further supplies voltage pulses to the thyristor to charge the timing capacitor to a voltage higher than the battery voltage when the voltage conversion circuit is operated and wherein the thyristor turns off when the voltage at the timing capacitor approaches the voltage of said pulses.

11. The flash circuit of claim 10 further comprising a detecting circuit which detects the voltage to which the flash capacitor is charged; said detecting circuit disables further flash capacitor charging after a flash ready voltage is reached but allows the oscillator to operate to enable continuous illumination of an LED ready light.

12. The flash circuit of claim 11 wherein the detecting circuit has:

a switch transistor connected in series with the flash capacitor to disable the flash capacitor from being charged when the signal from the detector indicates that the voltage at the flash capacitor has reached a desired voltage;

a voltage detector generating a signal that indicates a voltage to which the flash capacitor is charged.

13. The flash circuit of claim 11 further comprising a means to sustain oscillations and illuminate a LED ready light after the flash capacitor charging is disabled.

14. The flash circuit of claim 10 wherein the thyristor comprises a latched pair of transistors.

15. The flash circuit of claim 10 wherein the detector comprises a zener diode.

16. The flash circuit of claim 14 further comprising a pair of filter capacitors electrically connected between the base and emitter of each latch transistor.

17. The flash circuit of claim 14 further comprising a biasing capacitor and series resistor providing a biasing voltage to said thyristor.

18. A photographic flash circuit comprising:

a light emitting element connected to a flash capacitor;

a flash triggering circuit which causes the light emitting element to convert energy from the flash capacitor into light;

a voltage conversion circuit for converting a low battery voltage into a higher voltage to charge said flash capacitor, with the voltage conversion circuit having an oscillation transistor and at least one other transistor in an oscillation current path, said oscillation transistor oscillating during voltage conversion; and

a diode connected to more than one transistor to suppress any voltage spikes that appear during oscillation at the transistors to which the diode is connected.

19. A photographic flash charging circuit comprising:

a light emitting element connected to a flash capacitor;

a flash triggering circuit which causes the light emitting element to convert energy from the energy storage capacitor into light; and

a timer control circuit adapted to cause the voltage conversion circuit to operate for a timing period and then automatically shut off, with the timer control being reset to the beginning of the timing period by actuation of the flash triggering circuit, with the timing circuit having a timing period determined as a function of the voltage to which a timing capacitor is charged when the timing circuit is reset and said timer control circuit further comprising test points

provided across the timing capacitor so that a testing circuit can determine conditions at the timing capacitor during the testing.

20. The flash circuit of claim 19 wherein testing circuit can determine from conditions at the timing capacitor by, at least one of, sensing for conditions indicating that the reset has taken place, sensing for conditions indicating whether the timing period has terminated, applying a short across the timing capacitor, charging the timing capacitor, and causing the timing capacitor to discharge at a fast rate.